TEACHING GUIDE OF THE FINAL DISSERTATION

M1955 Master's Final Project/Trabajo Fin de Máster

1. SUBJECT IDENTIFICATION DATA

Program	**Máster Universitario en Investigación, Tecnología y Gestión de la Construcción en Europa - Master in Construction Research, Technology and Management in Europe**	
Centre	**ESCUELA TÉCNICA SUPERIOR DE INGENIEROS DE CAMINOS, CANALES Y PUERTOS**	
Module	**Master's Final Project/Trabajo Fin de Máster**	
Code and name	**M1955**	**Master's Final Project/Trabajo Fin de Máster**
ECTS	**10**	
Type	**Compulsory**	
Year / Term	**Unique**	**Other**
Web	**http://www.mscconstruction.unican.es**	
Languague	**English**	

Coordinator	Daniel Castro Fresno
Contact	Dpto. de Transportes y T. de P. y P., despacho 1015, telf. 22053
E-mail	castrod@unican.es

Link to the normative	http://web.unican.es/estudios/detalle-estudio?p=61&a=2016

2. PREVIOUS REQUIREMENTS

In order to register in the Master's Final Project, it is necessary to enroll in all subjects remaining to complete the master program. To present and defend it, the student must have passed all the subjects of the master degree.

3. GENERAL AND SPECIFIC SKILLS OF THE PROGRAM WORKED IN THE SUBJECT	
General skills	
CG1	Respect for fundamental rights and equality between men and women; for the principles of equal opportunities and universal accessibility of persons with disabilities and the values of a culture of peace and democratic values.
CG2	Autonomous and self-directed learning oriented to self-training in the field of construction engineering and the possibility of developing a doctoral program.
CG3	Application of the knowledge acquired in solving problems in the European and multidisciplinary environment of research in construction engineering, seeking progress and innovation in both civil engineering and building construction.
CG4	Ability to integrate knowledge and make judgments from incomplete or limited information, addressing the complexity of social and ethical responsibilities associated with such judgments.
CG5	Clear and unambiguous communication and defense of knowledge, reasoning and conclusions in front of an audience specialized or not in construction engineering
Specific skills	
CE13	Command of the process of development and application of new technologies in the construction sector in Europe.
CE14	Drafting and defense of scientific and technical documents through different means and in different formats related to the field of the construction sector in Europe.
Learning outcomes	
	Fix objectives and plan work on a specific topic related to construction engineering.
	Locate, select and study the scientific and technical information related to the subject of specific study, especially considering international impact articles, case studies and patents.
	Synthesize, discuss and make a critical analysis of the information studied, selecting the most appropriate tools and methodologies to work.
	Plan, manage and carry out the work, getting results.
	Give structure, explain and discuss the results obtained with the methodology, drawing and arguing the main conclusions.
	Compose a formal written document that reflects, in a clear and concise manner, the work done, the achievements, the main conclusions and possible continuation lines.
	Present publically the work, explaining the main foundations both to specialists and to non-specialists in the subject.

4. OBJECTIVES OF THE SUBJECT

The main objective of this module is the final development of students at Master level, emphasizing the correct wording and presentation of the work done in a Master's Thesis.

5. ORGANIZATIVE MODELS AND TEACHING METHODS

ACTIVITIES	HOURS
ATTENDANCE	
• Meetings and interaction with the supervisors	62.5
• Oral presentation and evaluation	12.5
Subtotal	**75**
NOT ATTENDANCE	
Individual work: • Searching information, study and planning • Development of the work plan • Writting of the report and preparation of the oral presentation	175
Subtotal	**175**
TOTAL	**250**

6. TEACHING ORGANIZATION

Organization of the offer and assignment of topics

The following procedure enables students to select an appropriate supervisor associated with a specific topic for the Master's Final Project (final dissertation):

a) Each participating university will forward to the Master Coordinator a list of potential topics for final dissertations with the associated supervisors (directores).
b) The Master Coordinator, assisted by a Commission, selects and distributes the final list to all the students.
c) Each student has the opportunity to consult, either directly or by email, with the potential supervisors to obtain such details as are necessary to enable a correct selection of topic for the final dissertation.
d) Each student decides and records in writing his/her intention to undertake three specific topics in order of preference, sending an email to the Master Coordinator.
e) The Master Coordinator assign the final dissertation topics with the associated supervisors, taking into account the students preference but also the supervisors requirements (specially in case of competition for one specific offer).

Time schedule

ACTION	DATE
Assigment of the topic	November
Report delivery	At least two weeks in advance of the defence
Oral presentaton	September and October.

Brief description of the Final Dissertation

The Master's Final Project or Final Dissertation (TFM) consists in an original piece of work on a topic related with construction engineering, proving the level of master.

The format of the Final Dissertation is free with the following recommendations: double-sided DIN A4 paper with suitable margins and spacing. The pages of the document are to be numbered consecutively and a table of contents is to be provided. The title of the Final Dissertation, the Student's, Supervisor's name and the academic year must appear through in the front cover, together with the logo of the Master and of the Supervisor's university. The length of the Final Dissertation should be approximately 15000 words. Annexes should be used for data that are not essential to reading and understanding the report.

Essentially there should be two key parts in any Final Dissertation. The first part should take the form of an academic review of the subject area. Hence it will include a description and analysis of the background to the topic area and will include the latest research findings in the field (State of the Art and/or Technique). The second part will contain original findings in the subject area, based on the student's own work using a certain research or professional methodology (eg. Discussion of Case Studies). Consequently, the student must describe the selected methodology, the results obtained and the discussion done in order to obtain the main conclusions and proposals for future work.

Comments

The official language for the document and presentation is English.

7. ASSESSMENT METHODS AND CRITERIA

Composition of the assessment panel

It is the responsibility of both the Supervisors to assess the 75% of the final grade. The assessments should be supported by concise but apposite remarks.

The remaining 25% of the final grade corresponds to the Poster Presentation. This will be assessed by a specific Panel constituted by at least 3 members who could be lecturers of the participant universities or professionals working in the sponsoring companies. The clerk of the panel will be a lecturer of the University of Cantabria.

Description of the oral presentation

For the defense, the student has to prepare an executive summary of his/her Final Dissertation in Poster format. The minimum size of the Poster is A1 (841 mm x 594 mm) and the maximum size is 1160 mm length and 730 mm high, always in landscape orientation. A power point presentation is NOT required.

The student is required to send his/her Poster in pdf format in advance, with copy to your Supervisor, your Moderator and the Master Coordinator, before to attend the University of Cantabria for the oral defense.

The student will have only 10 minutes to synthesize his/her work and 5 minutes to respond to the questions of the panel. If any student cannot attend to the Poster Presentation because of justified health or legal matters, the Master Coordinator could arrange a video conference as extreme solution.

Assessment criteria

CRITERIA	WEIGHT
Scientific and technical quality	60%
Quality of the report	15%
Oral exposition	15%
Oral discussion	10%

Comments

8. ENGLISH SKILLS	
Language skills	
Written comprehension	☒
Oral comprehension	☒
Written expresion	☒
Oral expresion	☒
Subject taugh totally in English	☒
Comments	